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MYO-MONITOR

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INSTRUCTION MANUAL

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myo-tronics

INDEX

HOW TO USE YOUR MYOMONITOR

UNDERSTAND YOUR MYOMONITOR

THE SOLID-STATE LIGHTWEIGHT, ELECTRONIC CIRCUITS AND THEIR CONTROLS ARE HOUSED IN A SPECIALLY DESIGNED AND BUILT COMPACT CASE. THE CASE PROVIDES ADVANTAGEOUS VISIBILITY AND ACCESS TO THE CONTROLS. THE CASE MAY BE HAND HELD OR IT MAY BE PLACED UP RIGHT OR FLAT ON IT'S BACK ON A CONVENIENT WORKING SURFACE.

TO INSURE SAFTEY, THE MYOMONITOR HAS IT'S OWN INDEPENDENT SELF-CONTAINED BATTERY SOURCE FOR ENERGY. IT IS ENTIRELY INDEPENDENT OF LINE CURRENT AND HAS NO CONNECTION TO IT. THIS SAFETY FACTOR ELIMINATES THE POSSIBILITY OF ACCIDENTAL SHOCK OR GROUNDING ASSOCIATED WITH INSTRUMENTATION THAT IS CONNECTED TO LINE CURRENT.

TO ATTACH MYOTRODES (SKIN ELECTRODES)

SEE INSTRUCTIONS ACCOMPANYING MYOTRODES.

THE THREE CIRCUITS OF THE MYOMONITOR

1. THE TEST CIRCUIT (CONTINUOUS FLOW) - DOES NOT ACTIVATE MUSCLE CONTRACTION.
2. THE MAIN CIRCUIT (SINGLE PULSE) - PROVIDES A SINGLE STIMULUS SPACED TO ALLOW COMPLETE RELAXATION OF THE MUSCLE BETWEEN STIMULI.
3. THE OVERCLOSURE CIRCUIT (MULTIPLE PULSE) - PROVIDES A CLUSTER OF STIMULI SPACED TO PRODUCE A CONTINUING CONTRACTION.

WHAT HAPPENS WHEN YOU USE THE TEST CIRCUIT

WHEN YOU DEPRESS THE FLIP SWITCH YOU ACTIVATE THE TEST CIRCUIT. WHEN YOU SWITCH THE MYOMONITOR TO TEST YOU AUTOMATICALLY CUT OFF OPERATION OF THE TWO MUSCLE-ACTIVATING CIRCUITS (PULSE AND OVER-CLOSURE.)

THE TEST CIRCUIT ACTIVATES A CONTINUOUS MINUTE FLOW OF CURRENT (1-1/2 VOLTS) EQUALLY TO THE INPUT ELECTRODE ON EACH SIDE. THE CURRENT THEN PASSES FROM THE INPUT ELECTRODE ON EACH SIDE THROUGH THE TISSUES OF THE PATIENT TO THE REAR DISPERSAL ELECTRODE. THE PASSAGE OF THIS MINUTE CURRENT THROUGH THE TISSUES, THOUGH IMPERCEPTIBLE TO THE PATIENT, REGISTERS ON THE METER SO YOU CAN COMPARE THE RELATIVE FLOW OF CURRENT ON EACH SIDE.

TO USE THE TEST CIRCUIT:

SET THE SELECTOR KNOB ON THE BOTH POSITION. THE NEEDLE ON THE METER WILL SWING UP THE SCALE AND INDICATE THE FLOW OF CURRENT THROUGH THE TISSUES FROM BOTH INPUT ELECTRODES TO THE REAR ELECTRODE.

TURN THE SELECTOR KNOB TO LEFT. THE METER NEEDLE WILL DROP SLIGHTLY BECAUSE NOW YOU ARE MEASURING THE FLOW OF CURRENT THROUGH THE TISSUES ONLY FROM THE LEFT INPUT ELECTRODE TO THE REAR ELECTRODE. NOW TURN THE SELECTOR KNOB TO RIGHT. IF FLOW IS EQUAL BILATERALLY THE NEEDLE WILL DROP SLIGHTLY THEN RETURN TO THE LEFT READING. IF FLOW IS NOT EQUAL THE NEEDLE MAY MARKEDLY DROP DOWN THE SCALE OR RISE UP THE SCALE, AS COMPARED TO THE LEFT SIDE.

IF NEEDLE REMAINS STATIONARY IT TELLS YOU THAT THE FLOW OF CURRENT THROUGH THE TISSUES IS EQUAL ON BOTH SIDES AND YOU MAY PROCEED TO USE THE PULSE CIRCUIT.

IF THE NEEDLE DROPS OR RISES MARKEDLY WHEN THE SELECTOR KNOB IS TURNED FROM LEFT OR RIGHT IT INDICATES CURRENT IS NOT FLOWING AS FREELY THROUGH THE TISSUES ON ONE SIDE AS IT IS ON THE OTHER SIDE. YOU THEN NEED TO GO OVER THE FOLLOWING CHECK LIST.

WHAT TO CHECK IF METER SHOWS A DISCREPANCY BETWEEN RIGHT AND LEFT SIDES DURING TEST

1. ELECTRICAL CONNECTIONS

BE SURE THE ALLIGATOR CLAMPS ARE CLEAN. IF ALLIGATOR CLAMPS ARE NOT RINSED UNDER RUNNING WATER AFTER EACH USE, ELECTO-LYTE JEL MAY DRY BETWEEN THE JAWS OF THE CLIPS. TO CLEAN AWAY ANY SUCH ACCUMULATION, REMOVE EACH CLAMP FROM THE FOIL TAB OF THE MYO-TRODE THEN SPRING EACH CLIP OPEN AND HOLD IT UNDER RUNNING WATER TO DISSOLVE AND WASH AWAY ANY DRIED ELECTROLYTE. RECONNECT THE CLAMPS TO THE FOIL TABS. SQUEEZE THE JAWS OF EACH CLAMP FIRMLY TOGETHER TO ASSURE FIRM CONNECTION.

2. MYOTRODE APPLICATION - CHECK THE FOLLOWING:

A.) WAS THE AREA THOROUGHLY SCRUBBED WITH ALCOHOL TO REMOVE SKIN OILS OR MAKEUP BEFORE THE ELECTRODE WAS APPLIED?

B.) IS THE REAR ELECTRODE CENTERED LATERALLY ON THE NAPE OF THE NECK OR IS IT NOTICEABLY OFF TO ONE SIDE?

C.) IS THE POCKET IN THE MYOTRODE FULL OF MYO-JEL OR IS IT PULLED AWAY FROM THE SKIN AND GAPING OPEN? INJECT MORE JEL WHEREVER IT IS NOT IN FULL CONTACT WITH THE SKIN.

D.) IS HAIR SO HEAVY IN THE AREA OF SIDE BURNS THAT IT WILL REQUIRE A FEW MINUTES FOR THE ELECTROLYTE JEL TO SEEP THROUGH TO THE SKIN? BE SURE THE MYOTRODE POCKET IS FILLED WITH SUFFICIENT

JEL TO COMPLETELY SOAK THE HAIR, PARTICULARLY ON THE SIDE WHICH IS REGISTERING LOW ON THE METER.

3. BILATERALLY UNEQUAL TISSUE RESISTANCE

THERE IS A POSSIBILITY THAT TISSUE RESISTANCE TO CURRENT FLOW MAY BE GREATER ON ONE SIDE. THEORETICALLY, THIS COULD BE DUE TO SUSTAINED MUSCLE CONTRACTURE. THE REMEDY IS TO USE THE PULSE CIRCUIT TO RELAX THE MUSCLE. THE METER READINGS FOR THE RIGHT AND LEFT SIDES OFTEN TEND TO EQUALIZE AFTER THE MUSCLE IS RELAXED UNDER THE INFLUENCE OF THE PULSE CIRCUIT. IF YOU HAVE CHECKED ALL THE ELECTRICAL CONNECTIONS AND THE UNEQUAL METER READING PERSISTS, YOU SHOULD PROCEED TO USE THE PULSE CIRCUIT. THIS WILL CAUSE CONTRACTION FOLLOWED BY RELAXATION, INCREASING THE BLOOD SUPPLY AND IMPROVING METABOLISM.

AFTER USING THE PULSE CIRCUIT FOR FIVE OR TEN MINUTES, YOU MAY AGAIN SWITCH THE MYOMONITOR TO TEST. USE THE SELECTOR KNOB TO DETERMINE WHETHER AND TO WHAT EXTENT THE FLOW OF CURRENT HAS INCREASED THROUGH THE RECALCITRANT SIDE. YOU WILL OFTEN FIND THAT THE FLOW OF CURRENT THROUGH THE TISSUES HAS INCREASED OVERALL AND THAT THE FLOW OF EACH SIDE HAS BECOME MORE EQUAL. THIS MAY BE DUE EITHER TO THE ELECTROLYTE HAVING TIME TO SATURATE SKIN AND HAIR MORE THOROUGHLY OR TO THE MUSCLE ITSELF IMPROVING IT'S CONDUCTIVITY AS IT'S PUMPING ACTION BRINGS IN INCREASED BLOOD SUPPLY AND METABOLITES.

THE PULSE CIRCUITS

CAUTION: TO AVOID UNEXPECTED OR EXCESSIVE SHOCK THAT MIGHT STARTLE THE PATIENT ALWAYS GO THROUGH THE CHECK LIST FOLLOWING

BEFORE USING THE PULSE CIRCUITS:

1. BE SURE THE INPUT JACK OF THE CABLE IS PLUGGED ALL THE WAY IN.
2. SET THE AMPLITUDE KNOB TO 1.
3. SET THE OVERCLOSURE KNOB TO 1.
4. SET THE SELECTOR SWITCH TO BOTH.
5. CENTER THE BALANCE CONTROL KNOB.

ALWAYS MAKE THE ABOVE A ROUTINE BEFORE YOU RAISE THE FLIP SWITCH TO THE PULSE POSITION. YOU WILL THEN HAVE SET ALL CONTROL KNOBS TO ZERO STARTING POSITION.

HOW TO USE THE PULSE CIRCUIT

WHEN THE FLIP SWITCH IS RAISED TO PULSE, A SIGNAL IS DELIVERED THROUGH EACH INPUT ELECTRODE TO THE MOTOR CENTER OF THE FACIAL (SEVENTH) NERVE AND THE MANDIBULAR (MOTOR BRANCH OF THE FIFTH NERVE.)

THE SINGLE PULSE (AMPLITUDE) CIRCUIT IS PROGRAMMED TO DELIVER A STIMULUS OF APPROXIMATELY 2 MSC DURATION AT 1-1/2 SECOND INTERVALS TO EITHER INPUT ELECTRODE OR INTO BOTH SIMULTANEOUSLY.

THE SIGNAL IS SIMILAR TO A NERVE STIMULUS ORIGINATING IN THE BODY.

THE 1-1/2 SECOND INTERVAL BETWEEN SIGNALS PROVIDES SUFFICIENT RESTING TIME BETWEEN MUSCLE CONTRACTION SO THE MANDIBLE CAN RETURN COMPLETELY TO THE REST POSITION. WITH THIS REST INTERVAL BETWEEN CONTRACTIONS MUSCLE CAN RESPOND INDEFINITELY WITHOUT FATIGUE.

IT IS IMPORTANT TO UNDERSTAND THAT MUSCLES DO NOT CONTRACT SINGLY. JAW CLOSURE IS THE RESULT OF GROUP CONTRACTION OF MUSCLES

A STIMULUS APPLIED TO SINGLE MUSCLES, SUCH AS MASSETERS OR TEMPORALS WILL NOT PRODUCE GROUP FUNCTION. THE MYOMONITOR PRODUCES GROUP FUNCTION BY APPLYING A STIMULUS TO THE MOTOR NERVE, WHICH IS THEN TRANSMITTED TO THE MUSCLES SUPPLIED BY THAT NERVE ALONG IT'S ENTIRE LENGTH. WHEN THE ELECTRODES OF THE MYOMONITOR ARE PROPERLY LOCATED THE STIMULUS CAUSES CONTRACTION OF THE MUSCLE COMPLEX ENERVATED BY THE MOTOR BRANCHES OF THE FIFTH AND SEVENTH NERVE.

WHAT HAPPENS WHEN YOU ADVANCE THE AMPLITUDE DIAL

SUB-THRESHOLD STIMULUS

AT THE LOWER END OF THE AMPLITUDE SCALE, THE STIMULUS WILL PROBABLY NOT BE SUFFICIENT TO CAUSE ANY MUSCLE CONTRACTION, HENCE IT IS CALLED A SUB-THRESHOLD STIMULUS. HOWEVER, EVEN A SUB-THRESHOLD STIMULUS SUPPLIES AN IMPERCEPTIBLE AMOUNT OF "LATENT" HEAT TO THE MUSCLES. HEAT MAKES MUSCLE METABOLISM MORE FAVORABLE AND RENDERS MUSCLE MORE CONTRACTILE. CONSEQUENTLY, A SUB-THRESHOLD STIMULUS MAY BECOME A THRESHOLD STIMULUS IF MUSCLE WARMS UP SO THAT IT RESPONDS MORE READILY TO A STIMULUS. MUSCLE WHICH MAY NOT RESPOND WHEN IT IS COLD MAY RESPOND WHEN IT BECOMES WARMER.

THRESHOLD STIMULUS

AS YOU ADVANCE THE DIAL UP THE AMPLITUDE SCALE, YOU WILL NOICE A SLIGHT CONTRACTION ON ONE OR BOTH SIDES OF THE FACE. A STIMULUS SUFFICIENT TO CAUSE A MINIMAL CONTRACTION IS CALLED A THRESHOLD STIMULUS. SUCH A STIMULUS IS NOT THRESHOLD FOR ALL OF THE MOTOR UNITS THAT CONSTITUTE THE MUSCLE. IT IS A STIMULUS JUST STRONG ENOUGH TO FIRE THE MOST SUSCEPTIBLE MOTOR UNITS IN THE MUSCLE. SOME MOTOR UNITS REQUIRE A SIGNAL OF GREATER AMPLITUDE AND

WILL NOT FIRE WITH THE THRESHOLD STIMULUS THAT ACTIVATES OTHERS.

EVEN THOUGH ONLY A FEW OF THE MOST SENSITIVE MOTOR UNITS ARE FIRING THEY GENERATE HEAT OF CONTRACTION WITHIN THE MUSCLE. THIS HEAT INCREASES THE METABOLIC EFFICIENCY OF CONTRACTILE ELEMENTS IN MUSCLE. AFTER THREE TO FIVE MINUTES ON A THRESHOLD STIMULUS THE MUSCLE WILL "LOOSEN UP" AND THE CONTRACTIONS WILL BE MORE PRONOUNCED EVEN THOUGH THE STIMULUS REMAINS THE SAME.

MAXIMAL STIMULUS

MUSCLE IS COMPOSED OF MANY MOTOR UNITS. THEY ARE NOT UNIFORM IN THEIR RESPONSE TO A STIMULUS OF GIVEN AMPLITUDE. SOME HAVE A LOW THRESHOLD. THEY RESPOND TO A RELATIVELY WEAK STIMULUS. OTHERS REQUIRE A STIMULUS OF GREATER AMPLITUDE BEFORE THEY WILL FIRE. A STIMULUS GREAT ENOUGH TO INSURE THAT ALL THE MOTOR UNITS ARE FIRED IS CALLED A MAXIMAL STIMULUS. THE RANGE OF AMPLITUDE BETWEEN THRESHOLD STIMULUS AND A MAXIMAL STIMULUS IS KNOWN AS THE EXCITATION RANGE.

HOW TO ADJUST THE AMPLITUDE DIAL

AS YOU ADVANCE THE AMPLITUDE KNOB YOU WILL OBSERVE THE FIRST FAINT INTERMITTENT CONTRACTION OF THE MUSCLES OF THE FACE. THIS MEANS YOU ARE ADMINISTERING A THRESHOLD STIMULUS. ALLOW THE AMPLITUDE TO REMAIN AT THRESHOLD FOR FIVE MINUTES. THIS INTERVAL ALLOWS TIME FOR THE MUSCLES TO WARM UP AND FOR THE PATIENT TO BECOME ACCUSTOMED TO THE PROCEDURE WITHOUT UNDUE APPREHENSION.

REMEMBER: ONCE YOU HAVE REACHED THRESHOLD, WAIT FIVE MINUTES BEFORE ADVANCING THE AMPLITUDE DIAL FURTHER

TO INSURE THAT YOU COVER THE ENTIRE EXCITATION RANGE, AND

REACH A MAXIMAL STIMULUS, YOU WILL NEED TO ADVANCE THE AMPLITUDE DIAL TWO NUMBERS BEYOND THE THRESHOLD STIMULUS. DO THIS IN TWO STAGES. AFTER YOU HAVE HAD THE PATIENT ON THRESHOLD STIMULUS FOR FIVE MINUTES, ADVANCE ONE NUMBER ON THE AMPLITUDE SCALE. LEAVE THE DIAL THERE FOR ANOTHER MINUTE AND THEN ADVANCE TO THE SECOND NUMBER ABOVE THRESHOLD.

WHY THE MAIN PULSE CIRCUIT WILL NOT DRIVE THE MANDIBLE ABOVE THE HEIGHT OF THE INTEROCCLUSAL (FREEWAY) SPACE REGARDLESS OF AMPLITUDE

MUSCLE FIBERS CONTRACT ALL OR NOTHING. THOSE MOTOR UNITS THAT FIRE AT ALL FIRE COMPLETELY AND CONTRACT COMPLETELY. INCREASING THE AMPLITUDE CAN CAUSE MORE MOTOR UNITS TO CONTRACT, BUT CANNOT CAUSE ANY GREATER CONTRACTION OF THOSE THAT ALREADY HAVE. WHEN THE AMPLITUDE IS SUFFICIENTLY GREAT TO FIRE ALL THE MOTOR UNITS IN THE MUSCLE THE RESULT IS A MAXIMAL CONTRACTION OF THE MUSCLE. FURTHER INCREASE OF AMPLITUDE BEYOND THAT WHICH HAS ALREADY FIRED ALL THE MOTOR UNITS IN THE MUSCLE WILL CONSTITUTE A SUPRA-MAXIMAL STIMULUS, WHICH WILL NOT CAUSE FURTHER CONTRACTION, NO MATTER HOW MUCH IT IS INCREASED BEYOND THAT POINT. FURTHER INCREASE IN THE AMPLITUDE WILL SEND THE SIGNAL FURTHER DOWN THE BODY WHERE IT MAY SPREAD TO THE SHOULDER MUSCLES. BUT IT WILL NOT PRODUCE ANY MORE COMPLETE CONTRACTION OF THE JAW CLOSING MUSCLES.

THE OVERCLOSURE CIRCUIT

YOU MAY HAVE A PATIENT FOR WHOM YOU WISH TO ADJUST THE OCCLUSION. BUT WHEN YOU USE THE MAIN (SINGLE) PULSE CIRCUIT THE TEETH DO NOT COME TOGETHER. NO MARKS APPEAR ON THE OCCLUSAL INDICATOR WAX. THIS PATIENT HAS AN EXCESSIVE INTEROCCLUSAL (FREEWAY) SPACE. THE PATIENT MAY HAVE WORN THE TEETH DOWN OR MAY HAVE INTRUDED THEM OR PREVENTED THEM FROM NORMAL ERUPTION BY EXCESSIVE CLENCHING OR BRUXING.

FOR VARIOUS REASONS YOU MAY PREFER NOT TO BUILD UP THE TEETH, BUT RATHER TO ADJUST THE OCCLUSION AT THE LEVEL WHICH EXISTS. HOPEFULLY IF THE DEFLECTIVE AREAS IN THE OCCLUSION ARE CORRECTED, THE CLENCHING OR BRUXING MAY DIMINISH AND THE TEETH MAY ERUPT FURTHER AND CORRECT THE EXCESSIVE FREEWAY SPACE.

TO CARRY THE MANDIBLE TO OCCLUSION AND REGISTER DEFLECTIVE CONTACTS ON THE INDICATOR WAX, YOU WILL NEED TO USE THE OVERCLOSURE CIRCUIT. THE OVERCLOSURE CIRCUIT PROVIDES A SHOWER OF CLOSELY SPACED STIMULI AT THE RATE OF 110 PER SECOND IN CONTRAST TO THE SINGLE STIMULUS OF THE MAIN CIRCUIT. UNDER THE INFLUENCE OF THE OVERCLOSURE CIRCUIT THE JAW WILL NOW CLOSE ABOVE THE HEIGHT OF THE PHYSIOLOGIC FREEWAY SPACE AND THE TEETH WILL IMPRINT INTO THE WAX.

HOW TO USE THE OVERCLOSURE CIRCUIT

THE OVERCLOSURE CIRCUIT IS AN ADJUNCT TO THE MAIN PULSE CIRCUIT. WHEN YOU WISH TO OVERCLOSE THE MANDIBLE, FIRST USE THE MAIN CIRCUIT IN THE REGULAR MANNER. THEN TURN THE OVERCLOSURE KNOB TO 2. ALLOW THE MANDIBLE TO CLOSE SEVERAL TIMES THEN TURN THE KNOB BACK TO 1. IF 2. ON THE OVERCLOSURE SCALE DOES NOT CARRY THE MANDIBLE HIGH ENOUGH TO MARK THE WAX, TURN THE KNOB FROM 1. DIRECTLY TO 4. AFTER SEVERAL CLOSURES THEN TURN THE KNOB BACK TO 1.

THE INFLUENCE OF POSTURE IN RECORDING MAXILLO MANDIBULAR RELATIONSHIP

MUSCLES CONTRACT MOST EFFICIENTLY FROM THEIR RESTING LENGTH. TO MOST READILY INSURE THAT THE MANY MUSCLES INVOLVED ARE IN BALANCED REST, THE PATIENT SHOULD BE STANDING IN A RELAXED UPRIGHT POSITION. IMPORTANT: THE PATIENT'S EYES SHOULD ALWAYS LOOK STRAIGHT AHEAD, NEIGHER DOWN OR UP! IF THE PATIENT IS SITTING, THE HEAD SHOULD BE IN LINE WITH THE BODY.

A TENSE PATIENT MAY HOLD THE MOUTH CLOSED WITH THE TEETH CLENCHED TOGETHER, OR ABNORMALLY OPEN WITH THE TEETH HELD APART, OR HOLD THE BODY IN A STRAINED POSTURE. IN EITHER CASE, ADMONISH THE PATIENT TO RELAX; ASK HIM TO IMAGINE HE IS A RAG DOLL, THAT HIS JOINTS ARE HANGING BY STRINGS AND THAT THEY ARE TOTALLY RELAXED. THEN ASK THE PATIENT TO OPEN THE MOUTH AS WIDE AS POSSIBLE AS IN A YAWN, THEN TO RELAX. IT ALSO HELPS TO TAP DOWNWARD AT INTERVALS AGAINST THE CHIN WITH THE FOREFINGER, TO PRODUCE A "JAW JERK": SIMILAR TO A KNEE JERK, WHILE ASKING THE PATIENT TO RELAX.

THOSE PATIENTS WHO DO NOT RELAX SHOULD BE PREMEDICATED WITH MUSCLE RELAXANTS, SUCH AS VALIUM, LIBRIUM OR ROBAXIN IN RECOMMENDED DOSES. IF AVAILABLE, NITROUS OXIDE ANALGESIA IS FAST AND EFFECTIVE.

THE MYOMONITOR SPECIFICALLY RELAXES THE JAW MUSCLES. LET IT OPERATE FIVE OR TEN MINUTES BEFORE TAKING RECORDINGS. AS THE PULSING CONTINUES AND THE MUSCULATURE RELAXES, ADJACENT MUSCLES ALSO AUTOMATICALLY POSITION THE BODY TO BEST FACILITATE THE OPENING AND CLOSING OF THE MANDIBLE THAT IS BEING PRODUCED INVOLUNTARILY. THE POSTURING OF THE HEAD TENDS TO BECOME SELF-CORRECTIVE.

THE BALANCE CONTROL

ON THE LOWER CENTER OF THE MYOMONITOR IS A CONTROL MARKED BALANCE. WHEN THE WHITE LINE IS STRAIGHT UP THE MYOMONITOR DELIVERS SIMULTANEOUS STIMULI OF EQUAL AMPLITUDE TO EACH SIDE. IF THE KNOB IS TURNED TOWARD YOUR LEFT THE STIMULUS BECOMES GREATER PROPORTIONATELY ON THE PATIENT'S RIGHT SIDE, WHICH IS ON YOUR LEFT AS THE PATIENT FACES YOU. IN OTHER WORDS, IF YOU WISH TO INCREASE THE AMPLITUDE ON EITHER SIDE OF THE PATIENT AS THEY FACE YOU, TURN THE AMPLITUDE KNOB TOWARD THAT SIDE. ALWAYS CHECK THE COMPARATIVE RESPONSE OF THE MUSCLES OF EACH SIDE OF THE FACE.

IF THE CONTRACTION OF THE MUSCLES IS MUCH MORE NOTICEABLE ON ONE SIDE THAN ON THE OTHER SIDE, IT CAN BE ASSUMED THAT THE MANDIBLE IS NOT CLOSING EVENLY.

IF YOU HAVE DIFFICULTY EVALUATING THE COMPARATIVE CONTRACTION, TURN THE OVERCLOSURE KNOB TO 2. THIS WILL PRODUCE A MORE PROLONGED CONTRACTION SO ANY IMBALANCE WILL BE EASIER TO SEE.

TO PRODUCE A BALANCED CONTRACTION, TURN THE BALANCE KNOB TOWARD THE RECALCITRANT SIDE. THEN TURN THE KNOB TOWARD THE STRONGER SIDE UNTIL IT IS OBVIOUSLY CONTRACTING MORE VIGOROUSLY. NOW CENTER THE KNOB BETWEEN THE TWO EXTREME POSITIONS. THE PROCEDURE IS SIMILAR TO THAT OF FOCUSING THROUGH GROUND GLASS ON A CAMERA WHERE YOU GO TO ONE SIDE UNTIL IT FOGS OUT THEN TO THE OTHER SIDE THEN BACK TO THE CENTER BETWEEN THEM.

THE BALANCE CONTROL IS USED TO PRODUCE BILATERALLY EQUAL MUSCLE RESPONSE. THE BALANCE CONTROL IS NEEDED WHEN MUSCLE IS NOT CLOSING EVENLY. YOU NEED AN EVEN CLOSURE BEFORE YOU ADJUST THE

OCCLUSION. USE THE BALANCE CONTROL TO PRODUCE A BALANCED CLOSURE WHEN ONE SIDE PERSISTS IN A STATE OF CONTRACTURE.

NOTE: IF YOU HAVE USED THE OVERCLOSURE TO MORE EASILY OBSERVE COMPARATIVE CONTRACTION, BE SURE TO TURN THE KNOB BACK TO 1. BEFORE FURTHER USE.

CLINICAL INDICATIONS FOR THE MYOMONITOR

THE MYOMONITOR IS USED IN THE FOLLOWING CONDITIONS:

1. TMJ MYOFASCIAL PAIN DYSFUNCTION SYNDROME. THE MYOMONITOR IS INDICATED TO RELAX THE MUSCULATURE AND TO DETERMINE THE MAXILLO-MANDIBULAR RELATIONSHIP TO WHICH THE TEETH SHOULD BE ADJUSTED TO ATTAIN A STABLE OCCLUSAL PLATFORM.

2. ADJUSTMENT OF THE OCCLUSION. THE MYOMONITOR IS INDICATED TO RELAX THE MUSCLES AND THEN CLOSE THE JAW TO THE MYOCENTRIC POSITION SO THE OCCLUSION CAN BE ADJUSTED TO THE MAXILLO-MANDIBULAR POSITION COMPATIBLE WITH A RELAXED MUSCULATURE.

3. FULL MOUTH RECONSTRUCTION. THE MYOMONITOR IS INDICATED TO RECORD THE MAXILLO-MANDIBULAR MYOCENTRIC POSITION TO WHICH THE RECONSTRUCTION SHOULD BE BUILT.

4. COMPLETE DENTURES. THE MYOMONITOR IS INDICATED TO CAUSE THE MUSCLES THEMSELVES TO MOLD IMPRESSIONS THAT BEAR EVENLY ON THE TISSUES AND TO FORM THE MOST ADVANTAGEOUS BORDERS WITH NO MANIPULATION OR INTERFERENCE BY THE DENTIST. IN ADDITION THE MYOMONITOR IS INDICATED TO REGISTER THE MOST ADVANTAGEOUS MAXILLO-MANDIBULAR

RELATIONSHIP FOR STABILIZATION OF DENTURE BASES.

5. FOR TREATMENT OF POST-OPERATIVE SWELLING AND TRISMUS. THE MYOMONITOR IS INDICATED TO REACTIVATE THE MUSCLES OF THE AREA BY CAUSING THEM TO CONTRACT INTERMITTENTLY. THEY PUMP OUT TOXINS THROUGH THE LYMPH CHANNELS. IMPROVED BLOOD CIRCULATION NORMALIZES METABOLISM AND RESTORES THE ABILITY OF THE MUSCLES TO CONTRACT AND RELAX.

TMJ PAIN DYSFUNCTION SYNDROME

THE MAIN CHARACTERISTIC OF TMJ PAIN DYSFUNCTION SYNDROME IS MUSCLE CONTRACTURE AND SPASM. WHILE THERE IS SOME DIFFERENCE OF OPINION AS TO THE CAUSE OF THE SPASM, THE MOST COMMON CAUSE IS AN UNSTABLE DENTAL OCCLUSION. SPASM MAY BE CAUSED BY PHYSICAL TRAUMA SUCH AS A BLOW, BACTERIAL OR VIRAL INFECTION OR EXPOSURE TO COLD OR NEUROLOGICAL OR EMOTIONAL TENSION STATES. HOWEVER, THE MOST COMMON AND MOST PERSISTANT FACTOR IS AN UNSTABLE DENTAL OCCLUSION.

WHATEVER IT'S CAUSE SPASM ITSELF DEFLECTS THE MANDIBLE AND DISRUPTS THE INTERCUSPATION OF THE TEETH. THE INSTABILITY OF THE DEFLECTED OCCLUSION THEN TRIGGERS FURTHER MUSCLE EXCITEMENT, TENSION AND SPASM. THE DILEMMA IN TREATMENT OF TMJ SYNDROME HAS BEEN THAT AS LONG AS THE MUSCULATURE IS IN SPASM ONE CANNOT DETERMINE THE INTERCUSPAL POSITION TO WHICH TO CORRECT THE OCCLUSION SO THE MUSCLES WILL RELAX, AND UNTIL THE OCCLUSION IS SO ADJUSTED ONE CANNOT ELIMINATE THE MUSCLE SPASM. THE MYOMONITOR OFFERS A DIRECT APPROACH TO THIS PERPLEXING PROBLEM. IT IS USEFUL BOTH TO BREAK UP SPASM AND RELAX THE MUSCULATURE AND ALSO TO CLOSE THE JAW TO

THE MYOCENTRIC POSITION FOR OCCLUSAL ADJUSTMENT.

SUGGESTED TREATMENT

ASK THE PATIENT TO OPEN WIDE AS POSSIBLE. MEASURE AND RECORD THE DISTANCE BETWEEN MAXILLARY AND MANDIBULAR INCISORS AS MEASURED WITH A MILLIMETER RULER. IF POSSIBLE OBTAIN ALGINATE IMPRESSIONS AND POUR CASTS.

APPLY THE MYOTRODES. TEST CURRENT FLOW; TURN ON THE MAIN PULSE CIRCUIT AS PREVIOUSLY DESCRIBED. OBSERVE THE COMPARATIVE CONTRACTION OF THE MUSCLES OF EACH SIDE OF THE FACE AND ADJUST THE BALANCE CONTROL SO THAT BOTH SIDES RESPOND EVENLY. PLACE KERR OCCLUSAL INDICATOR WAX OVER THE MANDIBULAR TEETH. PULSE FOR 15 MINUTES. AGAIN ADJUST THE BALANCE CONTROL SO BOTH SIDES RESPOND EVENLY. DEPRESS THE FLIP SWITCH TO TEST. THIS IS A CONVENIENT WAY TO INACTIVATE THE PULSE CURRENT FOR INTERVALS WHEN YOU WISH ACCESS TO THE MOUTH. REMOVE THE OCCLUSAL INDICATOR WAX FROM THE TEETH. FOR DIAGNOSIS AND AS A PERMANENT RECORD, OBTAIN A SAPPHIRE MYOPRINT REGISTRATION TO RELATE THE CASTS. (SEE SAPPHIRE MYOPRINT INSTRUCTIONS.) AGAIN PLACE OCCLUSAL INDICATOR WAX. RAISE THE FLIP SWITCH TO ACTIVATE THE PULSE CIRCUIT FOR FIFTEEN SECONDS. TURN THE SELECTOR KNOB TO THE LEFT FOR SEVERAL CLOSURES OF THE JAW AND TO THE RIGHT FOR SEVERAL CLOSURES. DEPRESS THE FLIP SWITCH BACK TO THE TEST POSITION. ASK THE PATIENT TO OPEN THE MOUTH.

IF THERE ARE NO MARKS ON THE WAX USE THE OVERCLOSURE CIRCUIT. (SEE OVERCLOSURE CIRCUIT.) MARK THROUGH THE TRANSPARENT AREAS ON THE OCCLUSAL INDICATOR WAX WITH THE OCCLUSAL INDICATOR PENCIL.

REMOVE THE WAX AND REDUCE THE DEFLECTIVE AREAS WHICH ARE MARKED ON THE TEETH.

PRESS OCCLUSAL WAX OVER THE MAXILLARY ARCH AND REPEAT THE PROCEDURE. ALTERNATE FROM ARCH TO ARCH UNTIL THE WAX SHOWS NO PERFORATIONS ON VERTICAL SURFACES BUT ONLY AT THE CUSP TIPS AND IN THE FOSSAE. AFTER ADJUSTMENT OF THE TEETH CONTINUE TO PULSE THE MUSCULATURE FOR ANOTHER 15 MINUTES. ASK THE PATIENT TO OPEN WIDE. MEASURE AND RECORD THE DISTANCE BETWEEN MAXILLARY AND MANDIBULAR INCISORS. RECORD AMOUNT OF OPENING DEVIATION AND ANY CHANGE IN CLICKING OR GRATING SOUNDS.

REPEAT THE ENTIRE ABOVE PROCEDURE DAILY FOR SEVERAL VISITS.

OCCLUSAL ADJUSTMENT

WITH THE PATIENT IN AN UPRIGHT POSITION, ADJUST THE HEADREST SO THE HEAD IS IN LINE WITH THE BODY. GO THROUGH THE USUAL WARM-UP PROCEDURE. ADJUST THE BALANCE CONTROL AND CONTINUE TO PULSE FOR AT LEAST FIVE MINUTES. THEN DEPRESS THE FLIP SWITCH TO TEST.

APPLY OCCLUSAL INDICATOR WAX OVER THE MANDIBULAR TEETH. RAISE THE SWITCH BACK TO PULSE. AFTER 30 SECONDS, MOVE THE SELECTOR KNOB FROM BOTH TO LEFT AND THEN TO RIGHT. MARK THROUGH ANY PERFORATIONS OR TRANSPARENT AREAS IN THE WAX WITH THE OCCLUSAL INDICATOR PENCIL.

STRIP OFF THE WAX AND PROCEED WITH THE OCCLUSAL ADJUSTMENT TO RECONTOUR AND ELIMINATE DEFLECTIVE CONTACTS THAT INTERFERE DURING CLOSURE TO THE TERMINAL POSITION. IT MUST BE UNDERSTOOD THAT USING THE MAIN CURRENT THE MANDIBLE WILL DROP TO THE REST

POSITION, THEN RISE TO THE HEIGHT OF THE INTEROCCLUSAL (FREEWAY) SPACE AND NO FURTHER. THE MAIN CIRCUIT IS PROGRAMMED NOT TO GO BEYOND THE PHYSIOLOGIC FREEWAY SPACE NO MATTER HOW HIGH THE CURRENT IS TURNED UP. THIS POSES A PROBLEM IF THE FREEWAY SPACE IS EXCESSIVE.

IF NO MARKS APPEAR ON THE WAX THERE ARE TWO POSSIBILITIES: A.) THAT THE PATIENT IS NOT THOROUGHLY RELAXED. B.) THE PATIENT MAY HAVE AN EXCESSIVE INTEROCCLUSAL SPACE (CLOSED BITE). THIS IS THE MOST COMMON REASON FOR FAILURE TO MARK THROUGH THE WAX. IN THIS CASE THE DENTIST MUST RESORT TO THE OVERCLOSURE CIRCUIT.

ALTERNATE THE INDICATOR WAX FROM MANDIBULAR TO MAXILLARY ARCH UNTIL ALL DEFLECTIVE CONTACTS HAVE BEEN ELIMINATED AND MARKS APPEAR ONLY AT CUSP TIPS AND IN THE FOSSA.

TECHNIQUE FOR MAXILLO MANDIBULAR RELATION RECORDS FOR FULL MOUTH RECONSTRUCTION OR BRIDGEWORK

THE MYOMONITOR GREATLY SIMPLIFIES THE PROBLEMS OF FULL MOUTH RECONSTRUCTION TO AN INCREASED VERTICAL HEIGHT. PRECISE MOUNTING RECORDS, EITHER FOR DIAGNOSTIC PURPOSES OR AFTER THE TEETH HAVE BEEN PREPARED CAN BE OBTAINED WITH LITTLE EFFORT IN 15 MINUTES OR LESS.

OBTAIN FULL MOUTH WORKING CASTS OF TEETH AND PREPARATIONS.

AFTER THE MAIN PULSE CIRCUIT HAS WARMED UP THE MUSCULATURE FOR 10 OR 15 MINUTES, LUBRICATE THE PATIENT'S LIPS WITH COLD CREAM. MAKE A STANDARD MIX OF SAPPHIRE MYOPRINT. WHEN IT HAS REACHED THE SOFT JEL STAGE, DEPRESS THE FLIP SWITCH ON THE MYOMONITOR TO TEST.

WHILE THE SAPPHIRE MYOPRINT IS STILL IN THE SOFT JEL STAGE PICK IT UP WITH A CEMENT MIXING SPATULA AND DISTRIBUTE IT OVER THE OCCLUSAL SURFACE OF ALL THE MANDIBULAR TEETH. LUBRICATE YOUR FINGERS WITH COLD CREAM. BY THIS TIME THE SAPPHIRE MYOPRINT ON THE TEETH WILL HAVE BECOME A SOFT PUTTY. WITH THE LUBRICATED FINGERS, MOLD THE MYOPRINT MATERIAL UP OVER THE OCCLUSAL SURFACES TO A HEIGHT OF SEVERAL MILLIMETERS.

RAISE THE FLIP SWITCH TO PULSE. ASK THE PATIENT TO STAND IN AN UPRIGHT RELAXED POSITION, LOOKING STRAIGHT AHEAD. ASK THE PATIENT TO STRETCH THE JAW AS WIDE AS HE CAN, THEN LET THE JAW HANG LOOSELY AND LET THE INSTRUMENT DO THE REST. TEST THE MATERIAL AT INTERVALS BY INDENTING WITH THE EDGE OF A CEMENT SPATULA.

WHEN THE INDENTATIONS FADE OUT IMMEDIATELY AND COMPLETELY, THE MATERIAL IS IN THE RUBBERY REBOUND STAGE. REMOVE THE RECORD IMMEDIATELY SO THAT IT DOES NOT HARDEN AND LOCK INTO INTERPROXIMAL AREAS. PLACE THE CLOSED BEAKS OF A PAIR OF COTTON PLIERS ALTERNATELY BUCCALLY AND LINGUALLY IN THE INTERPROXIMAL AREAS BELOW THE REGISTRATION AND LIFT THE MYOPRINT OFF THE TEETH.

REMOVE FROM THE MOUTH. QUICKLY TRIM AWAY ANY EXCESS MATERIAL FROM UNDERCUT AREAS WITH A PAIR OF SHARP SCISSORS.

PREFERABLY YOU SHOULD HAVE PREVIOUSLY OBTAINED OPPOSING CASTS OF THE TEETH. SEAT THE REGISTRATION CAREFULLY ON THE MANDIBULAR CAST WHILE STILL FLEXIBLE. THEN FIT THE MAXILLARY CAST IN PLACE ON THE OCCLUSAL RECORD AND ALLOW THE SAPPHIRE TO BENCH CURE BETWEEN THEM UNTIL IT IS HARDENED.

IF, HOWEVER, YOU HAVE NOT YET OBTAINED CASTS, CAREFULLY FIT THE FLEXIBLE TRIMMED RECORD OVER THE TEETH OF THE MANDIBULAR ARCH.

HAVE THE PATIENT CLOSE THE JAW LIGHTLY SO THE MAXILLARY TEETH FIT INTO THEIR IMPRINTS. AT INTERVALS TEST THE SAPPHIRE MYOPRINT WITH THE BLADE OF A CEMENT SPATULA. REMOVE IT FROM THE MOUTH AS SOON AS IT HARDENS SUFFICIENTLY SO IT CAN BE REMOVED WITHOUT DISTORTION.

CAUTION: DO NOT LEAVE THE OCCLUSAL RECORD IN THE MOUTH BEYOND THE INITIAL HARDENING STAGE BECAUSE THE GREATEST HEAT IS GENERATED AFTER THE INITIAL HARDENING.

THE SAPPHIRE MYOPRINT RECORDS MAY BE KEPT INDEFINITELY WITHOUT DIMENSIONAL CHANGE.

LATERAL CHEWING STROKE RECORDINGS:

THE MYOCENTRIC POSITION RECORDING HAS BEEN MADE WITH THE SELECTOR KNOB IN THE BOTH POSITION. IF, IN ADDITION YOU WISH TO MAKE A RECORDING OF LEFT AND RIGHT CHEWING STROKES, MAKE A SAPPHIRE MYOPRINT RECORD WITH THE SELECTOR KNOB SET AT LEFT. REPEAT IT AGAIN TO MAKE A THIRD SAPPHIRE MYOPRINT RECORD WITH THE KNOB SET AT RIGHT.

TO MOUNT CASTS ON ARTICULATOR SEE INSTRUCTIONS FOR TERMINUS PRECIS ARTICULATOR.

TECHNIQUE FOR COMPLETE PROSTHODONTICS

THE MYOMONITOR BRINGS A NEW ERA INTO COMPLETE PROSTHODONTICS. FIRST, IT ACTUATES THE MUSCLES TO IMPRINT THE BITERIM AUTOMATICALLY TO THE MYOCENTRIC POSITION AT THE PHYSIOLOGIC VERTICAL POSITION OF OCCLUSION. EACH IMPACT AGAINST THE SOFT BITERIM IMPRINTS IN MILLISECONDS WITHOUT ANY DEFLECTION OR DISPLACEMENT, JUST AS IT REACHES THE HEIGHT OF THE INTEROCCLUSAL (FREEWAY) SPACE.

IN ADDITION, THE IMPRESSION ARE TAKEN AUTOMATICALLY AS THE JAW CLOSES OVER AND OVER AGAIN DURING THE CURING CYCLE OF THE IMPRESSION MATERIAL, THUS EQUALIZING THE BEARING OF THE BASE ON THE TISSUES. IDEAL BORDERS OF THE IMPRESSION ARE ALSO MOLDED BY THE MUSCULATURE, CONTRACTING SYNCHRONOUSLY JUST AS THE IMPRESSION IS BEING IMPRINTED AGAINST THE TISSUES.

IMPRESSION TRAYS

1. OBTAIN PRELIMINARY PLASTER CASTS FROM ALGINATE IMPRESSIONS.
2. FORM THIN SELF-CURING ACRYLIC BASEPLATES OVER THE CASTS, EXTENDING TWO MILLIMETERS SHORT OF THE ANATOMICAL BORDERS.

THE MANDIBULAR BITE RIM

1. BUILD A WAX BITE RIM ON THE LOWER IMPRESSION TRAY, PARALLEL TO THE ORBITAL PLANE AND APPROXIMATELY ONE MILLIMETER ABOVE THE LOWER LIP. POSTERIORLY THE BITERIM SHOULD BE APPROXIMATELY HALF WAY UP THE RETROMOLAR PAD.

PLACE THE IMPRESSION TRAYS IN THE MOUTH TO TEST IF THEY ARE STABLE. IF THEY LACK STABILITY DUST THEM LIGHTLY WITH DENTURE ADHESIVE.

THE MAXILLARY BITERIM

MAKE A MIX OF SAPPHIRE MYOPRINT. WHILE IT IS STILL IN THE JEL STAGE, DISTRIBUTE IT AS A BITERIM ON THE MAXILLARY IMPRESSION TRAY.

PLACE THE MANDIBULAR IMPRESSION TRAY AND BITERIM IN THE MOUTH. LUBRICATE THE FINGERS WITH COLD CREAM. MOLD THE SAPPHIRE MYOPRINT ON THE MAXILLARY TRAY UP INTO THE FORM OF A BITERIM. LUBRICATE THE PATIENT'S LIPS WITH COLD CREAM. PLACE THE MAXILLARY TRAY IN THE MOUTH. CORRECT THE FORM OF THE PUTTY-LIKE MYOPRINT BITERIM WITH THE FINGERS SO IT IS POSITIONED DIRECTLY OVER THE LOWER BITE-RIM.

TURN THE MYOMONITOR TO PULSE. THE MANDIBLE WILL REPETITIVELY RISE TO THE HEIGHT OF THE INTEROCCLUSAL SPACE AND IMPRINT THE SOFT SAPPHIRE MYOPRINT AT THE MYOCENTRIC OCCLUSAL POSITION.

WHEN THE SAPPHIRE MYOPRINT REACHES THE RUBBERY STAGE AT WHICH THERE IS COMPLETE REBOUND, REMOVE THE IMPRESSION TRAYS FROM THE MOUTH. ALLOW THE SAPPHIRE BITERIM TO COMPLETE IT'S CURING ON THE BENCH.

THE INITIAL MANDIBULAR IMPRESSION

APPLY A THIN FILM OF MASQUE (BOSWORTH) OVER THE OUTSIDE MAX-ILLARY TUBEROSITY AREA, SO THAT EXCESS IMPRESSION MATERIAL FROM THE MANDIBULAR IMPRESSION WILL NOT ADHERE TO THE MAXILLARY IMPRES-SION TRAY.

IMPORTANT: BE SURE THE MYOMONITOR IS TURNED OFF WHILE YOU PLACE THE IMPRESSION IN THE MOUTH, OTHERWISE THE MUSCLES AS THEY CONTRACT MAY NOT ALLOW THE IMPRESSION MATERIAL TO GO ALL THE WAY INTO THE VESTIBULE. ON THE OTHER HAND, IF YOU SEAT THE IMPRESSION MANUALLY WITH THE FACIAL MUSCLES RELAXED, THE EXCESS IMPRESSION MATERIAL WILL COMPLETELY FILL THE VESTIBULE AS IT IS SQUEEZED OUT FROM UNDER THE TRAY. THEN WHEN THE MUSCLES CONTRACT UNDER CONTROL

OF THE MYOMONITOR, THEY WILL MOLD THE MATERIAL ALREADY IN THE VESTIBULE.

MAKE A MIX OF SAPPHIRE MYOPRINT. WHEN IT REACHES THE SMOOTH JEL STAGE, LOAD THE MANDIBULAR TRAY. AS THE SAPPHIRE MYOPRINT REACHES A SOFT PUTTY STAGE, CARRY THE LOADED TRAY TO THE MOUTH.

ACCURATELY ORIENT THE TRAY TO THE TISSUES WITH LIGHT PRESSURE. PLACE THE MAXILLARY TRAY FIRMLY IN PLACE. MANUALLY GUIDE THE MANDIBULAR BITERIM SO IT FITS INTO IT'S IMPRINT IN THE MAXILLARY BITERIM.

NOW ACTIVATE THE PULSE CIRCUIT. REMOVE THE BASES FROM THE MOUTH. WHEN THE SAPPHIRE BECOMES RUBBERY, DEPRESS THE SWITCH TO TEST. USE THE HEATED #25 BLADE OF A BARD PARKER LABORATORY KNIFE TO CUT AWAY ANY EXCESS IMPRESSION MATERIAL WHILE IT IS STILL RUBBERY. ALLOW THE MANDIBULAR IMPRESSION TO BENCH CURE.

RELIEVE PRESSURE AREAS ON THE MANDIBULAR IMPRESSION

RELIEVE ANY AREAS ON THE TRAY THAT INDICATE PRESSURE AGAINST THE SUPPORTING TISSUES. SHORTEN OR THIN THE TRAY WHEREVER THE BORDERS SHOW THROUGH.

RELINE THE MANDIBULAR IMPRESSION

MAKE A "SOFT" MIX OF SAPPHIRE MYOPRINT. THIS IS DONE BY USING SLIGHTLY LESS POWDER. AFTER THE CUP IS TAPPED ON THE BENCH, THE SURFACE WILL BE SLIGHTLY MOIST RATHER THAN CRUSTY WITH POWDER. AS SOON AS THE MIX SMOOTHS OUT INTO A LIQUID JEL LOAD THE MANDIBULAR

IMPRESSION TO FORM A WASH. PLACE THE MANDIBULAR IMPRESSION FIRMLY TO PLACE IN THE MOUTH.

THE MAXILLARY IMPRESSION

TO INSURE A SMOOTH SURFACE NOT CONTAMINATED WITH MUCUS, CLAMP THE CENTER OF A COTTON ROLL SO IT IS AT RIGHT ANGLES TO THE HANDLE OF A HEMOSTAT. WET THE COTTON ROLE WITH A TOPICAL ANESTHETIC. ASK THE PATIENT TO OPEN WIDE. RUB THE TOPICAL GENTLY INTO THE POSTERIOR THIRD OF THE PALATE TO ANESTHETIZE THE GLANDS IN THAT AREA SO THEY WILL NOT EXCRETE MUCUS DURING THE IMPRESSION TAKING.

SEAT THE MAXILLARY TRAY AND THE MANDIBULAR IMPRESSION IN THE MOUTH. HAVE THE PATIENT CLOSE TO DETERMINE WHETHER THE BITERIMS STILL FIT TOGETHER PERFECTLY. IF THERE IS ANY DOUBT, USE A FASKUT OR SIMILAR WHEEL TO SHORTEN THE MAXILLARY BITERIM SEVERAL MILLIMETERS. MAKE ANOTHER MIX OF SAPPHIRE MYOPRINT AND CORRECT THE MAXILLARY BITERIM.

LOAD A SOFT MIX OF SAPPHIRE MYOPRINT INTO THE MAXILLARY TRAY AS SOON AS IT REACHES THE JEL STAGE. PLACE THE MANDIBULAR IMPRESSION IN THE MOUTH. CARRY THE LOADED MAXILLARY TRAY TO PLACE. SEAT IT FIRMLY AGAINST THE TISSUES. ASK THE PATIENT TO CLOSE TO BE SURE THE BITERIMS FIT TOGETHER. TURN THE MYOMONITOR TO PULSE.

WHEN THE SAPPHIRE MYOPRINT HAS REACHED REBOUND CONSISTENCY, REMOVE THE MAXILLARY IMPRESSION FROM THE MOUTH. REMOVE ANY EXCESS WITH A HOT BARD PARKER BLADE OR A PAIR OF SCISSORS. ALLOW THE IMPRESSION TO BENCH CURE.

RELIEVE PRESSURE AREAS ON THE MAXILLARY IMPRESSION

RELIEVE ANY AREAS ON THE TRAY THAT INDICATE PRESSURE AGAINST THE SUPPORTING TISSUES. SHORTEN OR THIN THE TRAY WHEREVER THE BORDERS SHOW THROUGH.

RELINE THE MAXILLARY IMPRESSION

MAKE A "SOFT" MIX OF SAPPHIRE MYOPRINT BY USING SLIGHTLY LESS POWDER THAN A STANDARD MIX. AFTER THE CUP IS TAPPED ON THE BENCH THE SURFACE WILL BE SLIGHTLY MOIST RATHER THAN CRUSTY WITH POWDER. AS SOON AS THE MIX SMOOTHS OUT, LOAD THE LIQUID JEL OVER THE MAXILLARY IMPRESSION TO FORM A WASH. FIRST PLACE THE MANDIBULAR IMPRESSION FIRMLY IN PLACE IN THE MOUTH. THEN SEAT THE MAXILLARY IMPRESSION FIRMLY AND POSITIVELY TO PLACE. GUIDE THE BITE-RIMS SO THEY FIT.

RAISE THE FLIP SWITCH TO PULSE. TEST THE MATERIAL FROM TIME TO TIME UNTIL IT REACHES THE RUBBERY STAGE. REMOVE THE IMPRESSION FROM THE MOUTH AND CUT AWAY ANY EXCESS, PARTICULARLY AT THE TUBEROSITIES, THAT MIGHT INTERFERE WITH CORRECTION OF THE MAXILLO-MANDIBULAR REGISTRATION. ALLOW THE MAXILLARY IMPRESSION TO BENCH CURE.

CORRECT THE MAXILLO-MANDIBULAR REGISTRATION

IT IS CONCEIVABLE THAT DURING IMPRESSION TAKING THE MYOCENTRIC REGISTRATION MAY HAVE BECOME LESS ACCURATE. NOW THAT THE

IMPRESSIONS ARE COMPLETE, REDUCE THE MAXILLARY BITERIM ON A FASKUT LATHE WHEEL. CLEAR AWAY ANY INTERFERENCE FROM EITHER IMPRESSION AT THE HEELS WITH AN ACRYLIC CUTTER. MAKE ANOTHER MIX OF MYOPRINT. PLACE IT AS A CORRECTION OVER THE MAXILLARY BITERIM. PLACE BOTH IMPRESSIONS IN THE MOUTH AND TURN ON THE PULSE CIRCUIT TO INSURE PRECISE MYOCENTRIC AND VERTICAL POSITION RELATED TO THE IMPRESSION AS THEY EXIST IN THEIR FINISHED STATE.

BOX AND POUR THE CASTS.

ARTICULATOR MOUNTING

REFER TO MANUAL FOR TERMINUS PRECIS ARTICULATOR.

REDUCTION OF POST SURGICAL TRISMUS AND SWELLING

INSTITUTE APPROPRIATE ANTIBIOTIC THERAPY. AFTER SUFFICIENT TIME HAS ELAPSED FOR PROTECTIVE BLOOD LEVELS TO BE REACHED, APPLY THE PULSE CIRCUIT OF THE MYOMONITOR FOR APPROXIMATELY 25 TO 30 MINUTES. REPEAT THE FOLLOWING DAY IF NECESSARY.

DOS AND DON'TS

1. DO: WHEN YOU START THE MAIN PULSE CIRCUIT WAIT FIVE MINUTES AFTER YOU NOTICE THE FIRST THRESHOLD CONTRACTION BEFORE ADVANCING THE AMPLITUDE KNOB ANY FURTHER. THIS INTRODUCES THE PATIENT TO THE FEELING OF THE PULSE WHILE IT IS STILL BARELY

NOTICEABLE SO THE PATIENT DOES NOT BECOME UNDULY APPREHENSIVE

IN ADDITION TO REASSURING THE PATIENT, THE MUSCLES "WARM UP" AS THE SIGNAL ITSELF GENERATES "LATENT HEAT" AND THE CONTRACTION OF THE MUSCLES PRODUCES HEAT OF CONTRACTION. GIVE THE MUSCLES TIME TO WARM UP AFTER EACH ADVANCE OF THE AMPLITUDE KNOB BEYOND THRESHOLD!

DON'T: DON'T TURN THE AMPLITUDE KNOB ALL THE WAY UP TO COMPLETE CONTRACTION ALL AT ONCE. IT MAY UNNECESSARILY ALARM THE PATIENT TO WHOM THIS IS A NEW EXPERIENCE. THE PATIENT NEEDS TIME TO BECOME ACCUSTOMED TO NEW EXPERIENCES AND MUSCLES NEED TIME TO WARM UP FOR MORE EFFICIENT CONTRACTION.

2. DO: ADVANCE THE AMPLITUDE KNOB ONE NUMBER BEYOND THRESHOLD. THEN WAIT ONE MINUTE BEFORE ADVANCING THE KNOB TO THE NEXT STEP. TWO NUMBERS ABOVE THRESHOLD WILL ORDINARILY SUFFICE TO COVER THE EXCITATION RANGE AND PROVIDE A MAXIMAL STIMULUS.

DON'T; DON'T ADVANCE THE AMPLITUDE KNOB UP THE SCALE PAST THRESHOLD TO MAXIMUM ALL AT ONCE. YOU WILL VERY SELDOM NEED TO ADVANCE THE KNOB MORE THAN TWO STEPS ABOVE WHERE A THRESHOLD CONTRACTION OCCURS. IT WILL NOT CAUSE THE JAW TO CLOSE FURTHER AND WILL ONLY BE UNCOMFORTABLE AND CAUSE CONTRACTION FURTHER DOWN THE BODY INTO THE SHOULDER AREA.

3. DO: IF YOU NEED TO OVERCLOSE THE JAW, USE THE OVERCLOSURE KNOB, USUALLY AT 2. TURN IT BACK TO 1. AFTER A COUPLE OF CLOSURES.
DON'T: IF YOU HAVE ALREADY ADVANCED TWO STEPS BEYOND THRESHOLD, DON'T ADVANCE THE AMPLITUDE KNOB FURTHER TO TRY TO CLOSE THE

JAW FURTHER. THE MUSCLE IS ALREADY CONTRACTED "ALL OR NOTHING" AND FURTHER AMPLITUDE WON'T CLOSE THE JAW ANY HIGHER. IT WILL ONLY PRODUCE DISCOMFORT. YOU WILL NEED TO USE THE OVERCLOSURE CIRCUIT.

4. DO: BEFORE YOU TAKE A MAXILLO-MANDIBULAR REGISTRATION FOR FULL MOUTH RECONSTRUCTION, COMPLETE DENTURES, ETC., HAVE THE PATIENT STAND IN A RELAXED UPRIGHT POSITION, LOOKING STRAIGHT AHEAD, FOR FIVE MINUTES WITH THE MYOMONITOR OPERATING. ALLOW FIVE MINUTES FOR HEAD POSTURE TO CORRECT ITSELF AUTOMATICALLY AS THE JAW REPETITIVELY CLOSES AND RELAXES. IF THE PATIENT IS SITTING, AS DURING AN OCCLUSAL ADJUSTMENT, HAVE THE HEAD IN LINE WITH THE BODY. REGISTRATION OF OCCLUSAL INDICATOR WAX FOR THE FINAL STEP OF ADJUSTMENT SHOULD BE WITH THE PATIENT STANDING, THEN RETURNING TO THE CHAIR FOR THE ADJUSTMENT.

5. DO: WHEN BALANCING THE MUSCLES TO GET BOTH SIDES EVEN, YOU MAY WANT A LONGER CONTRACTION FOR EASIER COMPARISON. TURN THE AMPLITUDE KNOB BACK TO 1. ABOVE THRESHOLD. THEN TURN THE OVERCLOSURE CIRCUIT TO 2. MOMENTARILY TO GET THE LONGER CONTRACTION. AFTER YOU HAVE BALANCED THE MUSCLES CONTRACTION EVENLY ON BOTH SIDES, TURN THE KNOB BACK TO 1.

POWER SUPPLY

FOUR 1.5 VOLT "D" BATTERIES HOUSED UNDER BACK PANEL OF CASE.

TO CHANGE BATTERIES PULL DOWN BACK PANEL OF CASE. CHANGE WHEN METER NEEDLE FAILS TO REGISTER ABOVE BATTERY INDICATOR.

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